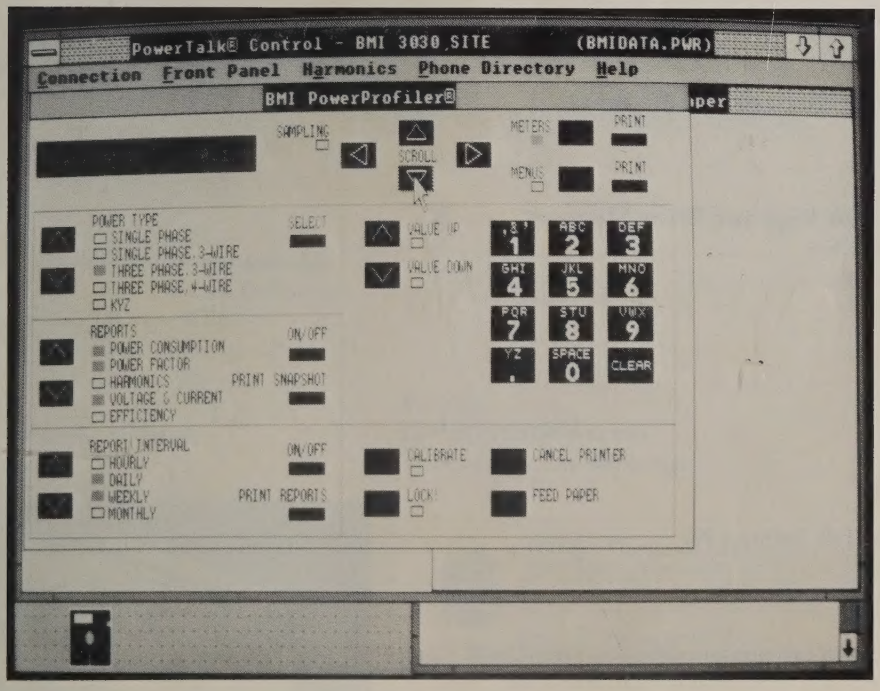
G-010 PowerTalk®

Version 3.02



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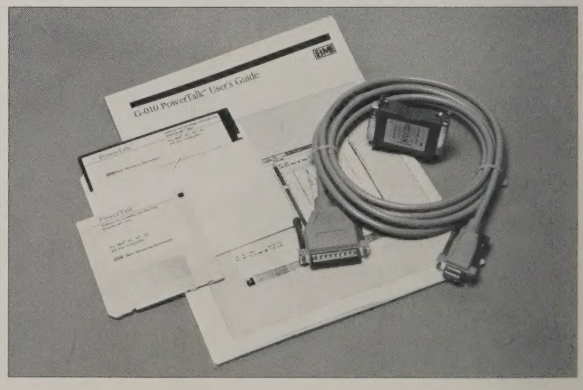
Equipment Requirements
The minimum requirements to run PowerTalk are:

1. an IBM PC AT or compatible computer
2. 1Mb memory minimum, 2Mb strongly recommended
3. 20Mb or larger hard disk for storage
4. an EGA or VGA graphics adapter (the monitor may be monochrome)
5. a mouse, bus type recommended
6. an IBM-compatible graphics printer
7. a Hayes SmartModem 1200/2400 for the PC (optional - needed for communication over phone lines with the instrument)
8. MicroSoft Windows, version 2.03 or later.
9. PowerScopes in your network require Revision D firmware or later (push **Self Test** to check). Older PowerScopes can be upgraded.

NOTE: For a current list of all User Notes check the Read Me file.

G-010 PowerTalk Software Kit
The contents of this kit are required to run PowerTalk. Please check that you have:

- ☐ two PowerTalk program diskettes – one 3½" and one 5¼". The contents of each diskette are identical.
- ☐ one serial interface cable for RS-232 connections.
- ☐ one null modem adapter.
- ☐ harmonic finder card



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Installation

1. Make a working copy of our PowerTalk diskettes before beginning. Your PowerTalk diskettes are not copy protected. Put the original diskettes away.
2. Make a new directory called BMI302 on your hard drive. (You can type INSTALL from the floppy drive and have this done for you.)
3. Place your working copy of PowerTalk into the disk drive in your PC.
4. Change to this drive.
5. Copy the contents of the diskette to your BMI302 directory.
   Change to your hard drive and the root directory.
6 Using any ASCII editor or the MicroSoft Windows Notepad program add the following line to your CONFIG.SYS file which is located in the root directory: DEVICE=[C:] [PATH] BMIDRIVE.SYS
7. Copy the file BMICONFG.EXE from the BMI302 directory into the MicroSoft Windows directory. Next, delete the BMICONFG.EXE file from the BMI302 directory.
8. Check the Read Me file for a current list of PowerTalk User Notes.
9. Reboot system

Booting and Running PowerTalk with Windows 3.0
PowerTalk Control must be run in Windows Real Mode when using Windows version 3.0 (type WIN/r). PowerTalk View can be run in the standard or enhanced modes (type WIN).

1. Change to the Windows directory.
2. Now open Windows.
3. Open the BMI PowerTalk applications BMIVIEW.EXE or BMICNTRL.EXE using the File Manager.

Application icons can be setup for PowerTalk applications within the Windows program. Refer to your Windows manual for instructions.

Booting and Running PowerTalk with Windows 2.03/286/386
When using these versions of MicroSoft Windows, the BMI program VIEW_286 should be opened in order to view BMI data.

1. Change to the Windows directory.
2. Open Windows

Example

You type:
DISKCOPY A: A:<enter> *(for one drive systems)*
COPY A:*.* B:<enter> *(for copying files from A to B drive)*

C:<enter>
MKDIR BMI302<enter>

insert working diskette

A:<enter>
XCOPY A: C: \BMI302<enter>

C:<enter>
DEVICE = C:\BMI302\BMIDRIVE.SYS

COPY \BMI302\BMICONFG.EXE
\WINDOWS\BMICONFG.EXE<enter>

DEL \BMI302\BMICONFG.EXE<enter>

You type:
CD \WINDOWS<enter>
WIN /r<enter> or WIN<enter>

NOTE: The installation instructions in this guide are based on a PC with the hard drive as drive C, the primary floppy drive as drive A, and a second drive (if any) as drive B.

3. Open the BMI PowerTalk applications VIEW_286.EXE or BMICNTRL.EXE using the File Manager. These can be run simultaneously.
4. Refer to the MicroSoft User's Guide for printer installation and optimization of the WIN.INI file. The WIN.TMP file found on the BMI distribution diskette may be useful in this regard. Please view it.

2 PowerTalk View

Viewing Files
Included on the PowerTalk diskettes are two sample disturbance files and two sample power files. The disturbance files are labeled SAMPLE.DIS and SAMPLE1.DIS. The power files are labeled SAMPLE.PWR and SAMPLE1.PWR.

Disturbance graphs stored from a PowerScope use the suffix .DIS after the file name. Graphs and reports stored from a PowerProfiler use the suffix .PWR after the file name and are referred to in this guide as power files.

To view disturbance and power files in View:

1. Open Powertalk View if it is not already open.
2. Click the mouse button on the File menu in the menu bar at the top of the View screen. Move the cursor to OPEN and click the mouse button again.

   A list of data files will appear on the screen. If this is the first time you are using PoweTalk, only the sample files will be present. After working with PowerTalk, any files you save will be shown here as well.

   Files may be saved and viewed from any directory. Consult the Windows User's Guide.

   .DIS or .PWR files will be displayed depending on the default setting specified in the OPEN dialog box. Change the suffix in the dialog box to the appropriate suffix for the file you wish to open. To change the default file type, click once on the file name, change the suffix to .DIS or .PWR as needed.

3. Highlight the file you wish to open, then click the OPEN box.

The file will appear in the View screen. Use the scroll bar to move through the file. Use the mouse to select graphs or text and pull down the Edit menu to copy your selection to the clipboard or to save a graph as a TIFF file for use by various other programs.

Additional copies of View can be opened while the first is open providing sufficient memory is available. You can move between files at will.

Turning Reports On or Off in View
The Filters menu allows you to select which disturbance or power reports you would like to view. Lists of check boxes show which reports are on or off. An "X" in the box indicates that a report is on; an empty box indicates the report is off. Entire sections of reports may be toggled on or off by clicking the on and off buttons within each group box.

Upon startup of View, all reports will always be on. Report selection will be in effect for any file opened after using this option for the current View session.

Copying Disturbance or Power Graphs into Reports
You can copy text or graphs, and you can add your own comments to any compatible word processing program without leaving Windows. The Write program supplied with your Windows program is compatible. Refer to the Write User's Guide.

To copy files into a Windows compatible program:

1. Highlight the selection you wish to copy from your View file.
2. Choose COPY from the View Edit menu.
3. Click the mouse in the Word Processing screen to bring it to the front.
4. Choose PASTE from the Edit menu. These can then be sized and located on the document.

Your selection will now be pasted in the location where the cursor is positioned in the file.

Copying Files into Other Programs
You may save a graph to a TIFF (Tag Image File Format) file, either compressed or uncompressed, for use in various word processors and other software supporting TIFF. Since software applications vary as to the type of compression they use for TIFF files, PowerTalk gives you the option of saving a graph uncompressed or compressed using CCITT/3 data compression. Copying to a TIFF file copies only the graph and no text (graph annotation is copied).

To save a graph to a TIFF file:

1. Highlight the area you wish to copy. Only the first graph of the highlighted area will be saved to the TIFF file.
2. Choose COPY TO TIFF from the Edit menu.
3. Select either Compressed or Uncompressed.
4. Select or enter a file name for the output TIFF file.
5. Click the OK button. The graph will be saved to the file named in step 4.

You will need to decide, based on the software you use, which type of TIFF files to create. For example, MicroSoft Word 5.0 reads the uncompressed file, while WordPerfect 5.0 reads the compressed file (sample Word 5.0 and WordPerfect 5.0 files containing a graph can be found in the files BMIMS50.DOC and BMIWPP50.DOC, respectively, on your PowerTalk diskettes). You must remember that many word processors that import graphics do so by grabbing a copy of a graphics file at print time. This means that if you make a reference to a graphics file, that file must exist for it to appear in the document.

Printing Files

You can print using the View program on most Windows-supported printers. (For best results when using a dot matrix printer choose a generic 9-pin driver even if you are using a 24-pin printer.)

To select your printer:

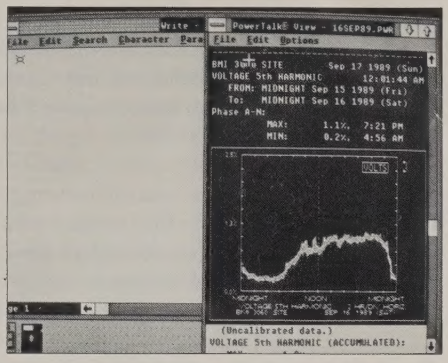
1. Choose CHANGE PRINTER from the File menu. A list of printers known to your Windows session will appear.
2. Select the printer you wish to use and click OK. Refer to your Windows User's Guide for information about adding printers.
3. BMI View is most compatible with the 9-pin dot matrix driver. Choose the 9-pin driver even if you have a 24-pin printer.

To print an entire file:

1. Choose PRINT FILE from the File menu.
2. Select PRINT FILE from the dialog box.

To print selections from a file:

1. Use the mouse to highlight the selection you wish to print. You can select more than one disturbance, power, or text report by pressing and holding the left mouse button and then dragging the mouse arrow down through your selection.
2. Choose PRINT SELECTION in the File menu.



Click and drag the mouse to highlight the area you wish to cut, copy, or save to an output file.

3 Setting Up Your PowerScope or PowerProfiler

Connecting Cables
PowerTalk software lets you control one or more PowerScopes or PowerProfilers remotely using a modem and an RJ-11 cable, or one PowerScope or PowerProfiler locally through an RS-232 cable.

When using a unit with an internal modem, the RJ-11 cable plugs directly into the Line connector on the rear of the unit. If you are using an external modem, the modem should be connected to the unit via an RS-232 cable, and the RJ-11 cable connects directly to the modem.

For RS-232 connection, use the RS-232 ports on the BMI unit and your PC's comm port. The RS-232 cable must be connected prior to calling the unit from your computer. Attach the provided null modem to your RS-232 cable to establish proper communication.

Setting Up a Slave Unit
Before establishing control from your PC, each PowerScope or PowerProfiler in your network must be programmed as a slave unit with the proper communications port selected. Do this when you place the unit in the field. Other menu items can be set or changed later through the PowerTalk Control program.

To set a PowerScope as a slave unit:

1. Access the Key Operator menu by pressing the **Setup** button quickly followed by the **Scroll Up** arrow.
2. Press the **Value Down** button until you reach the Communication menu.
3. Press the **Scroll Down** arrow to enter the menu.
4. Answer the questions in the menu and select the options for a slave unit. You will need to enter the phone number of your PC into the directory of your PowerScope if you want the PowerScope to be able to call your PC.
5. Turn the printer on the PowerScope off if you so desire (if you have the optional internal disk drive or an A-600, you can save your data to a diskette - place a formatted diskette into the drive, and set the drive to the Record mode).

To set a PowerProfiler as a slave unit:

1. Access the Communication menu by pressing the **Menus** button once, then pressing the **Value Down** button until you reach the Communication menu.
2. Answer the questions in the menu and select the option for a slave unit. You will need to enter the phone number of your PC into the directory of your PowerProfiler if you want the PowerProfiler to be able to call your PC.
5. Turn the printer on the PowerProfiler off if you so desire (if you have an the optional internal disk drive, you can save your data to a diskette - place a formatted diskette into the drive, and set the drive to the record mode).

Refer to the User's Guide for your PowerScope or PowerProfiler for menu layouts and setup information.

Using an A-600 Parallel Processor
If you are using an A-600 Parallel Processor with a slave unit, there are two different printer options available; storage printer and slave printer. The following table shows options for storage and printing. This table is based on an active A-600 with formatted diskette in drive A and set in the record mode. Slave printer refers to the printer in the BMI unit, and storage printer refers to the printer located with your PC.

	Saved on A-600 Disk	Sent to Slave Printer	Sent to PowerTalk
Slave on, storage on	yes	yes	yes
Slave off, storage on	yes	no	yes
Slave on, storage off	yes	no	no
Slave off, storage off*	yes	no	no

* not recommended

Setting your PC for RS-232 or modem:

1. If your program is not already running, turn the computer on and start PowerTalk.
2. Start the PowerTalk Control program by double clicking on the Control icon or running BMICNTRL.EXE.
3. After Control has successfully loaded, pull the Connection menu down and select either RS-232 or modem. The current selection will be indicated by a check mark.
4. Verify that you are connected properly for the communication selection you have made.
5. Ports and speeds can be changed by running BMICONFG.EXE.

Setting Up Your PowerScope or PowerProfiler

The Telephone Directory
If you are using modems for communication you must set up your telephone directory.

1. Access the PowerTalk Control program as outlined previously.
2. Pull down the Phone Directory menu and select OPEN.
3. Position the cursor in the Name box. Type in a the name of your slave unit and telephone number assigned to it. Use a comma for a 2 second pause. Use Add to add the entry, Change to modify an entry, and Delete to remove an entry. You may enter as many as 20 names in the directory.
4. To select a telephone directory listing, click on the name. The selected listing will appear in the header box.
5. To select the current listing and exit Control, click on OK. If changes have been made, you will be prompted to save these changes.

Calling a Slave Unit
To set up a PowerScope or PowerProfiler from your PC:

1. Access the PowerTalk Control program.
2. Pull down the Front Panel menu. Select the ENTER option.
3. If you have set your connection for modem, the Telephone Directory dialog box appears. Click on the name corresponding to the unit you want to connect with. The name will appear in the header box; click OK to select the name and exit.
4. The Data File dialog box will appear. Choose and enter a name for the file in which data from your PowerScope or PowerProfiler will be stored.

   Remember – all PowerScope display data files must end with the suffix .DIS and all PowerProfiler files must end with the suffix .PWR. Click on NONE to display data to the screen only.

   When using RS-232 connections the default name for PowerScope files is BMIDATA.DIS, and BMIDATA.PWR for the PowerProfiler. You should enter a new name so that subsequent files will not write over this file.
5. Click OK to select the file. Your PC will now place the call to the selected unit. Once the connection is made, a simulation of the front panel will be displayed on your screen.
6. Use your mouse to push the buttons just as you would on the unit front panel. The PowerScope or PowerProfiler you are calling must have been set up as a slave in order for this to work.
7. Set up the unit from your screen. If you connected to a PowerScope, don't forget to push the **Monitor** button to begin your monitoring session.

When your PowerScope or PowerProfiler receives the call from your PC, the display will read CALL RECEIVED. Once the connection is completed, the front panel will lock to prevent unwanted disruptions of your PowerTalk session and connection.

Be sure that your PowerProfiler or PowerScope has your PC's modem number in its directory as a master.

Receiving Calls from a Slave Unit
If your computer is going to receive calls from more than one PowerScope or PowerProfiler, you must assign different names to them in the telephone directory, and likewise, different disturbance or power file names.

To set up your PC to accept calls:
You need to set your slave unit to call a master unit (your PC). You can do this either on the unit directly or through the Control program.

1. Enter the name and number of your master unit (your PC) into the telephone directory of each slave unit that will be calling in.
2. Set up your slave PowerScopes or PowerProfilers to monitor (press the Monitor button on PowerScopes).
3. Leave your Control program active on your PC.

Whenever your PowerScope or PowerProfiler needs to print, it will initiate a call to the master (your PC), connect with the Control program, and download the information to the selected disturbance or power file.

When communicating via RS-232, you must leave the master and slave connected together. When communicating via modem, you may break the connection but must leave the PC on with the Control program active or iconic. Your modem must be set for auto-answer in order to receive incoming calls from slave units.

4 Harmonic Analysis and Snapshot Printing

Harmonics
Harmonic analysis can be performed with a PowerScope only when you are using a 2460 or have an A-600 Parallel Processor connected to a PowerScope. With the Parallel Processor, PowerTalk lets you select harmonic analysis at regular intervals.

Harmonic analysis can be performed with a PowerProfiler only when the Harmonic Option Package is installed in the unit. The PowerProfiler will print harmonic reports and graphs according to your report and interval set up on the front panel of the unit. PowerTalk lets you print snapshots at regular intervals with the PowerProfiler.

To sample harmonics with a PowerScope:

1. Pull down the Harmonics menu in the Control program.
2. You will be prompted for a sampling interval (how often you want the analysis performed). You may select an interval from 6 minutes (0.1 hours) to 24 hours.

The Harmonics menu appears only when you are connected to a PowerScope.

To select a one-time harmonic analysis with a PowerScope:

1. Using the mouse in the Control program, press the **Status** key quickly followed by the **Scroll Up** arrow on the front panel representation on your screen.

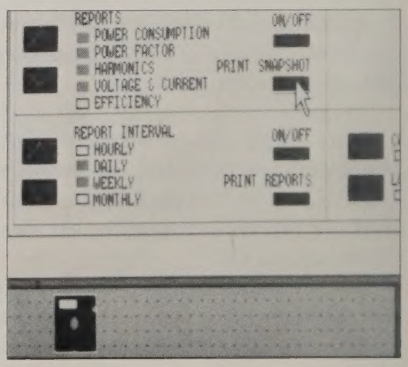
Snapshots
Snapshots from a PowerProfiler can be generated periodically and recorded on your host PC using PowerTalk.

To generate PowerProfiler snapshots:

1. Pull down the Snapshots menu. You will be prompted for a report interval (how often you want the snapshots generated).

or . . .

1. Use the mouse to press the Print Snapshots button on the PowerProfiler front panel for a one-time report.



Use the mouse to press the Print Snapshots button on the PowerProfiler front panel .

Accelerator Keys and Error Messages

Accelerator Keys

The Accelerator keys are provided to allow you use the computer keyboard instead of the mouse for certain program functions if you find it more convenient.

Accelerator keys in Control program for 2400/2460/4800 PowerScopes

Scroll up/down/right/left	arrow keys
Value up	page up
Value down	page down
Default	d
0 - 9	0 -9 (numeric keypad)
Clear	delete
Setup	s
Report	r
Status	a
Test	t
Monitor	m
Calibrate	c
Store memory	w
Recall memory	e
Feed paper	f
Cancel printer	p

Accelerator keys in Control program for 3030/3060 PowerProfilers

Scroll up/down/right/left	arrow keys
Value up	page up
Value down	page down
0 - 9	0 -9 (numeric keypad)
Clear	delete
Calibrate	c
Feed paper	f
Cancel printer	p
Meters	m
Meters print	,
Menus	u
Menus print	i
Power type up	w
Power type down	s
Select	e
Reports up	t
Reports down	g
Reports on/off	y
Print snapshot	h
Report interval up	+
Report interval down	-
Report interval on/off	[
Print reports	]

Accelerator keys in View program

File Menu	(^ = control)
Open	^o
Close	^c
Print file	^p
Print selection	^s

Edit Menu	(^ = control)
Copy	^insert
Copy to TIFF	^t
Scroll up	up arrow
Scroll down	down arrow
Bottom of file	end
Top of file	home
Move up one report	page up
Move down one report	page down

Error Messages

Error messages in alphabetical order are:

A GRAPHIC PRINTER IS REQUIRED
DATA READ ERROR (disk media error)
EMPTY DIRECTORY
INVALID FILE NAME
INVALID TELE DIRECTORY NUMBER
LINE BUSY AT . . . (number called)
LOST CONNECTION FROM POWERPROFILER/SCOPE
MODEM FAILURE
NO ANSWER FROM . . . (number called)
NO DIAL TONE PRESENT - CHECK LINE
NO MODEM IS INSTALLED IN THE SYSTEM
NO POWERPROFILER/SCOPE CONNECTED AT . . .
NO PRINTER ASSIGNED
NO PRINTER INSTALLED
NO RESPONSE FROM POWERPROFILER/SCOPE
POWERPROFILER/SCOPE IS SET AS A MASTER, NOT A SLAVE
PRINTING CANCELLED
PRINTING ERROR - PRINT ABORTED
THIS NAME ALREADY EXISTS IN TELE DIRECTORY
UNABLE TO CREATE TEMPORARY FILE
UNABLE TO WRITE TO EXPORT FILE
UNABLE TO WRITE TIFF FILE

If you require assistance in recovering from any error, call BMI Customer Service at 1-800 888-2648.

Installation Notes

Installation Notes

Basic Measuring Instruments
335 Lakeside Drive
Foster City, CA 94404
USA

Tel. 415 570-5355
1-800 876-5355
FAX 415 574-2176